



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,140	09/20/2000	Joseph G. Barrett	06975-131001	5787
26171 7590 03/27/2008 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER				
NGUYEN, VAN KIM T				
ART UNIT		PAPER NUMBER		
2152				
MAIL DATE		DELIVERY MODE		
03/27/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/666,140

Applicant(s)

BARRETT ET AL.

Examiner

VAN KIM T. NGUYEN

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 4 and 6-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6-45 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SI/005)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. This Office Action is responsive to communications filed on February 28, 2008. Claims 1, 3-4, and 6-45 are pending in the case.

Response to Arguments

2. Applicant's arguments, see page 14, with respect to the rejection of claims 42-44 under 35 U.S.C. 103(a) have been fully considered and are persuasive. The rejection of claims 42-44 has been withdrawn.

3. Applicant's arguments filed February 28, 2008 regarding the rejection of claims 1, 3, 4 and 6-37 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.\

Applicant's substantially argued: (A) It is improper to combine elements 22 and 11 to show "a switching element", and (B) Short fails to remedy the deficiency of Eichstaedt.

(A) Elements 22 and 11 were combined to show the monitoring for connection transactions between multiple access requestors and access provider using a switching component connected to the access provider:

Applicant's argued that "gateway 22 cannot by itself be the switching component of claim 1", see page 15, ¶2, without elaborating the reasons. As clearly shown in Figure 1, gateway 22 (i.e., the switching component) allows connection transactions between multiple corporate clients 14 (i.e., multiple access requestors) and system 21 (i.e., access provider) wherein the switching component connected to the access providers.

Applicant's also argued that there is no suggestion to combine the data protection system 11 and gateway 22 in a single component. "Section 103 forbids issuance of a patent when "the

difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” KSR Int’l Co. v. Teleflex Inc., 127 S.Ct. 1727, 82 USPQ2d 1385, 1391 (2007).

In KSR, The Supreme Court emphasized “the need for caution in granting a patent based on the combination of element found in the prior art, “id. at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious without an explicit application of the teaching, suggestion, motivation test. In particular, the Supreme Court emphasized that “the principles laid down in Graham reaffirmed the “functional approach” of Hotchkiss, 11 How. 248.” KSR, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar element according to known methods is likely to be obvious when it does not more than yield predictable results.” Id. The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variation of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Id. at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” Id. In this case, the combination of the data protection system 11 and gateway 22

provides a predictable result, i.e., monitoring the connection transaction between access requestors and access provider, thus it meets the claim.

Applicant's also argued that since data protection system 11 is part of the access provider (i.e., system 21), hence it cannot be "connected to access providers". However, as it is well known in the art, in order for a component to be a part of the system, the component has be connected to the system, either physically or logically, thus it is not clear what applicant is trying to imply.

(B) Short remedies the deficiency of Eichstaedt:

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Eichstaedt teaches substantially all the claimed limitations, i.e., monitoring a computer for connection transactions between multiple requestors and access provider using a switching component connected to the access provider and denying access by attacking requestor to the access providers when a number of connection transaction initiated by the attacking access requestor through the switching component exceeds a configurable threshold. However, Eichstaedt does not explicitly call for multiple access providers. Since Short teaches connections between multiple access requestors and multiple access providers, Short remedies the deficiency of Eichstaedt. It also is noted that Short is not relied upon to show "monitoring for connection transactions between the

multiple user computes and the plurality of networks" thus the argument that "Short fails to describe or suggest monitoring for connection transactions ..." is not valid.

Applicant's also argued erroneously that "the web server 18 of Eichstaedt monitors for connection transactions between multiple client computers 12 and 14 and the single web server 18" and thus, "each specific web server included in the proposed combination would deny access to a requestor only when the specific web server has detected a number of connection transactions to the specific web server that exceeds a threshold", see page 18, ¶1. It is noted that since Eichstaedt discloses monitoring connection transactions between multiple access requestors (12, 14, 16) and an access provider (21) via a switching element (22, 11), and Short teaches switching component (10) connected to multiple access providers (20, 22), it is obvious and predictable that the monitoring can be provided for connection transaction via a switching component between (a) one access requestor and one access provider; (b) multiple access requestors and one access providers; or (c) multiple access requestors and multiple access providers. Therefore, the combination of Eichstaedt and Short meets the claimed "monitoring for connection transactions between multiple access requestors and access provides using a switching component connected to the access providers."

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As presented in the specification, page 5: lines 4-5 and page 6: lines 24-25, it would suggest to one of ordinary skill that all may be reasonably implemented as software routines, therefore, claims 15-37 are rejected as a system of software per se, failing to fall within a statutory category of invention.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-39 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichstaedt et al. (U.S. Patent No. 6,662,230), hereinafter Eichstaedt, in view of Short et al.(US 6,636,894), hereinafter Short.

Regarding claims 1, 8-9, 13, 15, 23, 25, 34, 38-39 and 45, as shown in Figures 1-6, Eichstaedt discloses:

monitoring a computer system for connection transactions between multiple requestors (12, 14, 16) and an access provider (21) using a switching component (22, 11) connected to the access provider (col. 5: lines 32-39; and col. 10: lines 34-43);

denying access by an attacking access requestor (16) to the access provider (21) when a number of connection transactions initiated by the attacking access requestor (e.g., request values) through the switching component (11) exceeds a configurable threshold number (e.g., maximum request values) during a first configurable period of time (col. 6: lines 43-61; and col. 12: lines 3-20).

Eichstaedt also discloses the monitoring includes detecting connection transactions between multiple Internet protocol addresses and the access provider with the switching components (Eichstaedt; col. 5: lines 32-39; and col. 7: lines 23-49).

Eichstaedt does not explicitly call for a plurality of access providers.

As shown in Figure 1, Short teaches a system and method for providing multiple users (14) access to a plurality of networks (22 and 20; col. 6: line 9 – col. 7: line 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Short's method of providing multiple users access to a plurality of network providers in Eichstaedt's system, motivated by the need of providing users access to the Internet, i.e., a worldwide, publicly accessible network of interconnected computer networks that transmit data, consisting of millions of smaller domestic, academic, business, and government networks.

Regarding claim 3, Eichstaedt-Short also discloses the monitoring further includes counting, using the switching component, and comparing the number of connection transactions initiated by the access requestors to any of the access providers (e.g., request values) through the switching component (e.g., 22, 11) during the first configurable period of time (t_1) to the configurable threshold (e.g., a comparison between the calculated request values and a predefined maximum value is made; Eichstaedt; col. 7: lines 5-49).

Regarding claims 4, 16 and 26, Eichstaedt-Short also discloses:

the monitoring further includes comparing, using the switching component, the number of connection transactions initiated by the access requestors through the switching component

during the first configurable period of time to the configurable threshold number (e.g., a comparison between the calculated request values and a predefined maximum value is made during t_1 ; Eichstaedt; col. 7: lines 5-49); and

denying access by the attacking access requestor to the access providers includes denying, using the switching component, access by the attacking access requestor to all of the access providers connected to the switching component when the comparison results indicate that the number of connection transactions initiated by the attacking access requestor during the first configurable period of time exceeds the configurable threshold number (e.g., denying access after failing cumulative data check; Eichstaedt, col. 3: lines 3-38 and col. 9: line 2-53).

Regarding claim 6, Eichstaedt-Short also discloses the monitoring further includes counting, using the switching component, the number of connection transactions initiated to any of the access providers by the Internet protocol addresses during the first configurable period of time such that the number of connection transactions reflects a cumulative number of connection transactions initiated to any of the access providers by the Internet protocol addresses (step 86, Figure 4; Eichstaedt, col. 8: line 56 – col. 9: line 15).

Regarding claims 7, 17 and 27, Eichstaedt-Short also discloses the monitoring further includes

comparing, using the switching component, the number of connection transactions initiated by the internet protocol addresses during the first configurable period of time to the

configurable threshold number (e.g., a comparison between the calculated request values and a predefined maximum value is made during first frequency t_1 ; Eichstaedt; col. 7: lines 5-49); and

denying access by the attacking access requester to the access providers includes denying, using the switching component, access by the attacking access requestor to all of the access providers connected to the switching component when the comparison results indicate that the number of connection transactions initiated by the Internet protocol address associated with the attacking access requestor during the first configurable period of time exceeds the configurable threshold number (step 86, Eichstaedt; Figure 4, col. 8: line 56 – col. 9: line 15).

Regarding claims 10-12, 20-22, and 30-33, Eichstaedt-Short discloses that the denying of access includes denying access to the access providers through the switching component (e.g., 22, 11) by the attacking access requestor (e.g., 16) for a second configurable period of time (t_i) after detecting a most recent connection transaction initiated by the attacking requestor through the switching component (Eichstaedt; col. 4: lines 12-17, and col. 7: lines 31-49).

Regarding claims 36, Eichstaedt-Short also discloses a host computer system (e.g., 21) receives communication from the switching component (e.g., 22, 11; Eichstaedt, Figure 1).

Regarding claims 37, Eichstaedt-Short also discloses the switching system (e.g., 22, 11) is included in a host system (e.g., 21; Eichstaedt, Figure 1).

Regarding claim 42, Eichstaedt-Short also discloses:

the access provides include a first access provider and a second access provide that different from the first access provider (20, 22; Short, Figure 1);

monitoring for connection transactions between multiple access requestors and access providers using the switching component connected to the access providers includes:

detecting, using the switching component, a first number of connection transaction initiated by the attacking access requestor to the first access provider during the first configurable period of time (e.g., monitoring request frequency to a server for a specific client identifier during t_1 ; Eichstaedt; col. 7: lines 5-49), and

detecting, using the switching component, a second number of connection transactions initiated by the attacking access requestor to the second access provider during the first configurable period of time (e.g., monitoring request frequency to a server for a specific client identifier during t_1 ; Eichstaedt; col. 7: lines 5-49), and

denying access by the attacking access requestor to the access providers when the number of connection transactions initiated by the attacking access requestors through the switching component exceeds the configurable threshold number during the first configurable period of time includes denying access by the attacking access requestor to both the first access provider and the second access provider when a sum of the first number of connection transactions and the second number of connection transactions exceeds the configurable threshold number (perform frequency check and cumulative data check, the client identifier fails and is rejected if the request value exceeds the predefined maxima; Eichstaedt; Figure 4, col. 8: line 56 – col. 9: line 53).

Regarding claim 43, Eichstaedt-Short also discloses:

detecting, using the switching component, the first number of connection transactions initiated by the attacking access requestor to the first access provider during the first configurable period of time includes detecting a first number of connection transactions that exceeds the configurable threshold number during the first configurable period of time (e.g., comparing the calculated request values and a predefined maximum value is made during t_1 , obviously the calculated request value could be any number, i.e., less than, equal or exceed the predefined maxima; Eichstaedt; col. 7: lines 5-49);

detecting, using the switching component, the second number of connection transactions initiated by the attacking access requestor to the second access provider during the first configurable period of time includes detecting zero connection transactions initiated by the attacking access requestor to the second access provider during the first configurable period of time (e.g., comparing the calculated request values and a predefined maximum value is made during t_1 , obviously the calculated request value could be any number, i.e., less than, equal or exceed the predefined maxima; Eichstaedt; col. 7: lines 5-49), and

denying access by the attacking access requestor to both the first access provider and the second access provider when a sum of the first number of connection transactions and the second number of connection transactions exceeds the configurable threshold number includes denying access by the attacking access requestor to both the first access provider and the second access provider when the first number of connection transaction exceeds the configurable threshold number and the second number of connection transaction is zero (perform frequency check and

cumulative data check, the client identifier fails and is rejected if the request value exceeds the predefined maxima; Eichstaedt; Figure 4, col. 8: line 56 – col. 9: line 53).

Regarding claim 44, Eichstaedt-Short also discloses:

detecting, using the switching component, the first number of connection transactions initiated by the attacking access request or to the first access provider during the first configurable period of time includes detecting a first number of connection transactions that is less than the configurable threshold during the first configurable period of time (e.g., comparing the calculated request values and a predefined maximum value is made during t_1 , obviously the calculated request value could be any number, i.e., less than, equal or exceed the predefined maxima; Eichstaedt; col. 7: lines 5-49);

detecting, using the switching component, a second number of connection transactions initiated by the attacking access requestor to the second access provider during the first configurable period of time includes detecting a second number of connection transactions that is less than the configurable threshold number during the first configurable period of time (e.g., comparing the calculated request values and a predefined maximum value is made during t_1 , obviously the calculated request value could be any number, i.e., less than, equal or exceed the predefined maxima; Eichstaedt; col. 7: lines 5-49), the sum of the first number of connection transactions and the second number of connection transactions exceeding the configurable threshold number (since log entries is based on client identifiers, it is obvious a cumulative request value from a client including connection transactions to all access providers; col. 6: lines 39-61); and

denying access by the attacking access requestor to both the first access provider and the second access provider when a sum of the first number of connection transactions and the second number of connection transactions exceed the configurable threshold number includes denying access by the attacking access requestor to both the first access provider and the second access provider when the sum of the first number of connection transactions and the second number of connection transactions exceeds the threshold number, even though neither the first number of connection transactions nor the second number of connection transactions exceeds the configurable threshold number (perform frequency check and cumulative data check, the client identifier fails and is rejected if the request value exceeds the predefined maxima; Eichstaedt; Figure 4, col. 8: line 56 – col. 9: line 53).

7. Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichstaedt, in view of Short, as applied to claim 39 above, and further in view of Lin et al (US 6,751,668).

Regarding claim 40, Eichstaedt-Short discloses substantially all the claimed limitations, except the establishment of a communication link between the attacking access requestor and one of the access providers involving exchange of more than two electronic messages.

Lin discloses establishment of a communication link between the attacking access requestor and one of the access providers involving exchange of more than two electronic messages (e.g., SYN and SYN/ACK; Figure 1, col. 2: lines 2-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Lin's method of responding to service attacks in Eichstaedt-Short's system in order to limiting unwanted access to server data.

Regarding claim 41, Eichstaedt-Short-Lin also discloses:

determining, using the switching component, that the second configurable time period, has passed without detecting a new connection transaction initiated by the attacking access requestor to any of the access providers through the switching component (e.g., monitoring the rate of receipt of session establishment; Lin, Figure 2: lines 30-43); and

in response to determining at the second configurable time period has passed without detecting a new connection transaction initiated by the attacking access requestor to any of the access providers through the switching component, allowing access by an attacking access requestor to the access providers (e.g., monitoring the rate of receipt of session establishment is less than the MAX_SESS_RATE, the state machine moves back to the normal state 202; Lin, Figure 2: lines 30-43).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN KIM T. NGUYEN whose telephone number is (571)272-3073. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Van Kim T. Nguyen
Examiner
Art Unit 2152

vkn

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2152

Application Number**Application/Control No.**

09/666,140

Examiner

VAN KIM T. NGUYEN

**Applicant(s)/Patent under
Reexamination**

BARRETT ET AL.

Art Unit

2152